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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,724	11/13/2003	Carlo Ottelli	71204	2175

7590 01/30/2006

McGLEW AND TUTTLE
John James McGlew
Scarborough Station
Scarborough, NY 10510-0827

EXAMINER

RIVELL, JOHN A

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary	Application No.	Applicant(s)	
	10/712,724	OTTELLI, CARLO	
	Examiner	Art Unit	
	John Rivell	3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/13/03 (application).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3753

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biermann in view of Assmann and Egli.

The patent to Biermann discloses, in figure 3 for example, a "pressure balancer to be associated or integrated with a mixer valve featuring two separate inlets for hot (12) and cold (11) water and a mixed water outlet (13, figure 1) towards the user, comprising a balancer body having a base wall (lower) and an upper wall and defining a chamber (bore 14) with closed ends (at plugs 18, 19), a piston (20, 21, 22) housed and floating in said chamber (14), wherein: said chamber has a middle section between two side sections, cylindrical and aligned along a same axis, the middle section having a... diameter... the side sections, which are identical with each other, said piston (20, 21, 22) has an intermediate flange (22) joined at opposite ends to two side flanges (left 20, right 21), the intermediate flange (22) having an external diameter compatible with that of said middle section of said chamber (14) and featuring a peripheral seal (at surface to surface contact of the middle spool land 22 with the internal diameter of bore 14)..., and the side flanges (20, 21) each having a diameter corresponding to that of the side sections of said chamber (14)..., and in the base wall of the balancer body two openings (12, 11) are provided for the inflow of hot water and cold water respectively in said side sections of said chamber (14), and in the upper wall of said balancer body, two openings (a the lower ends of channels 27, and 29, respectively on opposites sides of center land 22) are obtained on opposite sides of the intermediate flange (22) of the piston for the outflow of the hot and cold water from the middle section of said chamber

towards the hot and cold water inlets (at the upper ends of channels 27 and 29, respectively) of said mixer valve (sleeve 32), the intermediate flange (22) of the piston moves in the middle section of said chamber in the space between the hot and cold water outflow openings, while the side flanges (20, 21) of the piston move in the respective side sections of said chamber to open/close to a variable extent the inlet openings in response to the changes in pressure of the hot and cold water flows into the balancer" as recited in claim 1.

Thus the patent to Biermann discloses all the claimed features with the exception of having the "middle section (22 of the piston of) a larger diameter than the two opposite ends sections 21, 21 and a "peripheral seal (element) on the inner surface of the middle section".

Firstly, the patent to Assmann discloses, in figure 1 for example, that it is known in the art to employ a unitary piston f, g, h, including a larger diameter middle section f, and two opposing smaller sections at the sides g, h for the purpose of reacting to the pressure differential between hot and cold water supplies to prevent scalding of the user. As compared to the structure shown in Biermann, the differences clearly represent a change in a particular size of the same element, which change in size effects greater sensitivity to the change in pressure applied on the larger area of the piston relative to the smaller area in Biermann.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Biermann a middle piston section of larger diameter than the opposite end piston areas for the purpose of increasing the sensitivity to the effect of fluid pressure differential forces on opposite sides of the now larger piston as recognized by Assmann.

Secondly, the patent to Egli discloses that it is known in the art to employ a separate seal element at the darkened area between flanges 38, 39 of the middle piston section of the pressure differential responsive piston valve element 6 for the purpose of fluid tightly sealing the middle section to the chamber diameter isolating the fluid pressure forces on opposite sides of the middle section of the piston.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Biermann a separate seal element on the periphery of middle piston section 22 for the purpose of fluid tightly sealing the middle section to the chamber diameter isolating the fluid pressure forces on opposite sides of the middle section of the piston as recognized by Egli.

Regarding claim 2, in Biermann, "each of said side flanges (20, 21) has a transversal hole (25, 26 at piston land 20; 23, 24 at piston land 21) for enabling communication of fluids between its (20, 21) opposite sides" as recited.

Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biermann in view of Assmann and Egli as applied to claims 1-2 above, further in view of Ottelli.

The patent to Biermann, as modified by Assmann and Egli, discloses all the claimed features with the exception of having the valve body bore formed by an integral wall at one end and a plug at the opposite end.

The patent to Ottelli discloses, in figure 4 for example, that it is known in the art to employ an integral wall bore, at the right end of the bore receiving the balancing piston 18, closed off by an opposite end plug 31 for the purpose of permitting easy assembly and replacement of the balancing piston without disassembly of the mixing valve from the cartridge.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Biermann, as modified by Assmann and Egli, a closed end integral wall on one end of the bore forming piston bore 14 to be closed off by the opposite "plug" 18 or 19 for the purpose of permitting easy assembly and replacement of the balancing piston without disassembly of the mixing valve from the cartridge as recognized by Ottelli.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Biermann in view of Assmann and Egli as applied to claims 1-2 above, further in view of Orlandi.

The patent to Biermann, as modified by Assmann and Egli, discloses all the claimed features with the exception of having "seals fitted around the hot and cold water inlets".

The patent to Orlandi discloses that it is known in the art to employ seal elements 17 around both the hot and cold water inlets 15a, 15b for the purpose of sealing the connection of the balancing device to the hot and cold water inlets to further isolate the respective pressures of the separate supplies on opposing sides of the balancing device.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Biermann, as modified by Assmann and Egli, seal elements at the inlets of the hot and cold water to the balancing device for the purpose of sealing the connection of the balancing device to the hot and cold water inlets to further isolate the respective pressures of the separate supplies on opposing sides of the balancing device as recognized by Orlandi.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Biermann in view of Assmann and Egli as applied to claims 1-2 above, further in view of Yang.

The patent to Biermann, as modified by Assmann and Egli, discloses all the claimed features with the exception of having "positioning feet".

The patent to Yang discloses that it is known in the art to employ "positioning feet" at posts 524 for the purpose of repeatedly uniformly locating the balancing device within the cavity of the cartridge in which it is assembled.


It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Biermann, as modified by Assmann and Egli, "positioning feet" for the purpose of repeatedly uniformly locating the balancing device within the cavity of the cartridge in which it is assembled as recognized by Yang.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Rivell whose telephone number is (571) 272-4918. The examiner can normally be reached on Mon.-Thur. from 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


John Rivell
Primary Examiner
Art Unit 3753

j.r.